

WHAT IS CLAIMED IS:

1. A method of manufacturing a synthetic resin mold package by sealing an internal element with synthetic resin so as to expose at
5 least a part of the surface of the internal element, comprising:

a coating step of coating a part to be exposed of the surface of the internal element with a coating agent;

a bonding step of bonding a die pad portion to a rear surface of the internal element;

10 an arranging step of arranging a structure obtained by way of the coating step and the bonding step in a mold;

a pressing step of inserting a pin into the mold after the arranging step to make the front end thereof abut on the die pad portion and pressing a surface of the coating agent against the inner surface
15 of the mold;

an injecting/setting step of injecting synthetic resin into the mold and setting the synthetic resin after the pressing step;

a taking-out step of taking out a resin-sealed body obtained by way of the injecting/setting step from the mold; and

20 a removing step of removing the coating agent from the resin-sealed body.

2. The method of manufacturing a synthetic resin mold package as claimed in claim 1, wherein the coating agent is photoresist, and
25 the coating agent is removed from the resin-sealed body by immersing the resin-sealed body in a solvent in the removing step.

3. The method of manufacturing a synthetic resin mold package as claimed in claim 1, wherein the internal element is formed by forming
30 an electrically conductive thin film on a surface of an insulating

substrate, and the electrically conductive thin film extends from a part to be exposed of a surface of the internal element to a part other than the part to be exposed and has an electrode pad section formed in the part other than the part to be exposed.

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4. The method of manufacturing a synthetic resin mold package as claimed in claim 3, wherein the electrically conductive thin film is covered by an insulating protective film in the part to be exposed.

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5. The method of manufacturing a synthetic resin mold package as claimed in claim 3, wherein the electrically conductive thin film includes a pair of thin film electrodes arranged to produce an electrostatic capacitance.

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6. The method of manufacturing a synthetic resin mold package as claimed in claim 5, wherein a specific dielectric constant of the insulating substrate is not higher than 5.

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7. The method of manufacturing a synthetic resin mold package as claimed in claim 3, wherein the die pad portion is connected to a lead section to form a lead frame in the bonding step, the electrode pad section and the lead section are electrically connected after the bonding step and before the arranging step, and the lead frame is cut and the die pad portion is separated from the lead section after the taking-out step.

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8. An alcohol concentration sensor of an electrostatic capacitance type for measuring an alcohol concentration in gasoline mixed with alcohol, comprising:

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an insulating substrate; and

a pair of thin film electrodes arranged on a surface of the insulating substrate to produce an electrostatic capacitance,

wherein the insulating substrate is made of a material showing a specific dielectric constant of not higher than 5.

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9. The alcohol concentration sensor as claimed in claim 8, wherein the insulating substrate has a thickness between 200 and 1000 μm .

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10. The alcohol concentration sensor as claimed in claim 8, wherein the pair of thin film electrodes have a thickness between 0.01 and 0.8 μm .

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11. The alcohol concentration sensor as claimed in claim 8, wherein each of the pair of thin film electrodes is at least partly covered by an insulating protective film.

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12. The alcohol concentration sensor as claimed in claim 11, wherein the insulating protective film is made of a material showing a specific dielectric constant of not higher than 5.

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13. The alcohol concentration sensor as claimed in claim 11, wherein the insulating protective film has a thickness between 0.4 and 1 μm .

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14. The alcohol concentration sensor as claimed in claim 8, further comprising a pair of lead-out electrodes connected respectively to the pair of thin film electrodes; and a resin mold for sealing connection ends of the lead-out electrodes connected to the thin film electrodes and a part of the insulating substrate, wherein

the resin mold exposes to the outside at least a part of the surface of the insulating substrate with the thin film electrodes formed thereon.

5 15. An alcohol concentration measuring apparatus, comprising:
an oscillation circuit including the pair of thin film electrodes of
an alcohol concentration sensor as claimed in claim 8; and a processing
section for computationally determining the alcohol concentration
according to an oscillation frequency of the oscillation circuit.

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16. The alcohol concentration measuring apparatus as claimed
in claim 15, wherein the processing section computationally determines
the alcohol concentration using a calibration curve.

15 17. The alcohol concentration measuring apparatus as claimed
in claim 15, wherein the calibration curve shows a relationship between
the alcohol concentration and the oscillation frequency of the
oscillation circuit within a range of alcohol concentration between
0 and 5% and a corresponding range of the oscillation frequency of
20 the oscillation circuit.